III.A.5.N.b.7. ATRIPLEX CONFERTIFOLIA SHRUBLAND ALLIANCE
Shadscale Shrubland Alliance

Alliance Identifier: A.870
Atriplex confertifolia / Pleuraphis jamesii Shrubland
Shadscale / James' Galleta Shrubland

ELEMENT CONCEPT

GLOBAL SUMMARY:
N/A

ENVIRONMENTAL DESCRIPTION

USFWS WETLAND SYSTEM: TERRESTRIAL

Ouray National Wildlife Refuge Environment: Flats near the edges of mesas, hills and ridges at the toeslopes of bluff faces, and hills adjacent to the Green River near Wyasket Bottom all may have exposed gravel and cobble which typically supports *Atriplex confertifolia* Dwarf-shrubland. These sites range from level to approximately 12% slopes for the sites sampled and have a variety of aspects. Wildlife use is high, particularly by pronghorn, cottontail rabbits, and small mammals.

Global Environment: This association is found in the southwestern Great Plains, Colorado Plateau, Great Basin, and Mojave Desert mountains. It occurs on two distinct substrates: coarse-textured (rocky or sandy), non-saline soils derived from sandstone or gravel, or deep fine-textured, poorly drained, alkaline, often-saline soils derived from shale or shale-derived alluvium. Sites with coarse-textured soils include gravel and cobble outcrops, mesa escarpments, mountain and hill slopes, ridges, and along toeslopes of river bluffs. Fine-textured soil sites include alluvial flats, floodplains and basins. The common trait of these different substrates is that they are very dry either because of low precipitation (15-23 cm annually) or because of high internal plant moisture stress from soil salinity. Cryptogamic crusts and mosses are important in some stands.

VEGETATION DESCRIPTION

Ouray National Wildlife Refuge Vegetation: Total foliar cover is low in the *Atriplex confertifolia* Dwarf-shrubland type, ranging from approximately 10-30%. On only one site sampled, in sandier soils, *Atriplex confertifolia* contributed more than 5% of the foliar cover (approximately 20%). This type supported a rare cacti at one sample site, but common shrubs and succulents include *Gutierrezia, sarothrae, Ephedra torreyana, Leptodactylon pungens, Opuntia polyacantha,* and *Tetradymia spinosa*. Grasses common to this type include *Pleuraphis jamesii, Achnatherum hymenoides, Elymus elymoides*, and *Bromus tectorum*. Foliar cover for herbaceous species ranges from 5-20% in the stands sampled.

Global Vegetation: This association is characterized by an open canopy (10-30% cover) of shrubs dominated by *Atriplex confertifolia* with a sparse to moderate graminoid layer dominated by *Pleuraphis jamesii*. Associated shrubs include *Ericameria nauseosa, Ephedra torreyana, Chrysothamnus viscidiflorus, Krascheninnikovia lanata, Gutierrezia sarothrae, Artemisia bigelovii, Picrothamnus desertorum, Grayia spinosa, Suaeda moquinii (= Suaeda fruticosa)*, and *Opuntia polyacantha* depending on substrate, or *Amphipappus fremontii, Ambrosia dumosa*, and *Lycium pallidum* in the Mojave Desert. If other *Atriplex* species are present, they do not dominate the canopy. Other graminoids include *Achnatherum hymenoides, Sporobolus cryptandrus*, and *Elymus elymoides* on sandy sites and *Bouteloua gracilis* and *Sporobolus airoides* on fine-textured soil. Forbs generally have low cover and may include *Sphaeralcea grossulariifolia, Eriogonum inflatum*, and species of *Chaenactis, Phacelia*, and *Chenopodium*. Introduced species such as *Bromus tectorum* and *Salsola kali* are common on some sites.

Dynamics: Ecological processes vary with landscape type.

MOST ABUNDANT SPECIES

Ouray National Wildlife Refuge

Stratum	**Species**
SHORT SHRUB	*Atriplex confertifolia, Gutierrezia sarothrae, Ephedra torreyana, Leptodactylon pungens*
HERBACEOUS	*Pleuraphis jamesii, Bromus tectorum*

Global Stratum	Species
SHORT SHRUB	*Atriplex confertifolia*
SHORT SHRUB	*Gutierrezia sarothrae*
GRAMINOID	*Bromus tectorum*
GRAMINOID	*Pleuraphis jamesii*

CHARACTERISTIC SPECIES

Ouray National Wildlife Refuge
Species
Atriplex confertifolia, Gutierrezia sarothrae, Ephedra torreyana, Leptodactylon pungens, Pleuraphis jamesii, Bromus tectorum

Global
Species
Atriplex confertifolia, Pleuraphis jamesii

OTHER NOTEWORTHY SPECIES

Ouray National Wildlife Refuge Stratum	Species
N/A	

Global Stratum	Species
N/A	

OURAY NATIONAL WILDLIFE REFUGE SIMILAR ASSOCIATIONS:
Ephedra torreyana Dwarf-shrubland occupies similar habitat on mesa rims and bluff edges.

GLOBAL SIMILAR ASSOCIATIONS:
Atriplex confertifolia Wyoming Basins Shrubland (CEGL001293)
Atriplex confertifolia Great Basin Shrubland (CEGL001294)
Atriplex confertifolia / Achnatherum hymenoides Shrubland (CEGL001311)

SYNONYMY:
Atriplex confertifolia Association in the Mixed Shrub Zone (Annable 1985).
Atriplex confertifolia Plant Community (Branson et al. 1976).
Mat *Atriplex-Pleuraphis* Community (Dastrup 1963) I. This community is codominated by *Atriplex confertifolia* and *Atriplex corrugata*.
Atriplex-Tetradymia Association (Graham 1937) . This community is codominated by *Atriplex confertifolia* and *Atriplex corrugata*.
Shadscale/grass (Harper and Jaynes 1986) . This community is codominated by *Atriplex confertifolia* and *Atriplex corrugata*.
Atripletum confertifolae association (Ibrahim et al. 1972) I. Total canopy cover was sparse (10%) with 4.6% ATCO and 3.3% PLJA.
Gutierrezia sarothrae - Atriplex confertifolia (Potter et al. 1985) I. Occurs on top of Mancos Shale knolls.
Atriplex confertifolia cover type (Tuhy and MacMahon 1988) . Includes both *Atriplex confertifolia/Pleuraphis jamesii* community type and *Atriplex confertifolia/Pleuraphis jamesii- Hesperostipa hymenoides* community type.
Atriplex confertifolia/Pleuraphis jamesii Habitat Type (West and Ibrahim 1968) . See note from Ibrahim et al. 1972.
Frontier Sandstone (Welsh 1957) I. Occurs on northern exposures on sand and on southern aspects at base of slope.

CLASSIFICATION COMMENTS

Ouray National Wildlife Refuge: N/A

Global Comments: This widespread shrubland association is only defined by the codominance of *Atriplex confertifolia* and *Pleuraphis jamesii*. Stands are found in different regions (from southwestern Great Plains to Great Basin), in different environments (clay bottomlands, dunes, desert mountains) and with different associated species. This association will likely need to be subdivided as more classification information becomes available.

ELEMENT DISTRIBUTION

Ouray National Wildlife Refuge Range: *Atriplex confertifolia* Dwarf-shrubland is typically distributed on gravel and cobble outcrops/exposures that are found on mesa edges in the vicinity of the Leota Bottom and Johnson Bottom overlooks, bluff toeslopes in the vicinity of both Headquarters and the Fish Hatchery, and rolling hills along the Green River near Wyasket Bottom. One stand was observed growing on deep, silty clay soils, about two miles northwest of the Johnson Bottom overlook parking area.

Global Range: This shrubland association is reported from the southwestern Great Plains, Colorado Plateau, Great Basin, and Mojave Desert mountains, occurring on a variety of landforms.

Nations: US
States/Provinces: CA? CO NV UT
TNC Ecoregions: 10:C, 11:C, 19:C, 6:C
USFS Ecoregions: 341C:CC, 342B:CC
Federal Lands: USFWS (Ouray)

ELEMENT SOURCES

Identifier: CEGL001304 **Confidence:** 2 **Conservation Rank:** G3G5
REFERENCES: Annable 1985, Branson and Owen 1970, Branson et al. 1976, Campbell 1977, Dastrup 1963, Graham 1937, Harper and Jaynes 1986, Ibrahim et al. 1972, Lusby et al. 1963, Potter et al. 1985, Singh and West 1971, Soil Conservation Service 1978, Tuhy and MacMahon 1988, U.S. Bureau of Reclamation 1976, Von Loh 2000, Welsh 1957, West and Ibrahim 1968.